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A TAXONOMIC REVIEW OF THE SPOTTED-BREASTED ORIOLE

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INTRODUCTION

The Spotted-breasted Oriole *(Icterus pectoralis)* is a resident of semi-arid Pacific lowlands from Guerrero, Mexico south to northwestern Costa Rica and of xeric habitats in interior areas of Guatemala and Honduras. Four forms have been described: nominate *pectoralis,* Wagler 1829 (from Mexico), *guttulatus,* Lafresnaye 1844 (from Mexico, but see beyond), *anthonyi,* Griscom 1930 (from northwestern Guatemala), and *espinachi,* Ridgway 1882 (from northwestern Costa Rica). Monroe (1968, p350), the latest author to discuss geographic variation in the species, wrote, "In an extensive series from all parts of Central America, size variation ranges clinally from larger northern to smaller examples from Costa Rica. All color characters seem to be bridged by individual variation; these characters include intensity of orange, . . . and amount of pectoral spotting". He recognized only nominate *pectoralis.* Hellmayr (1937) earlier recognized *pectoralis* (with *guttulatus* as a synonym), *anthonyi* and *espinachi.* Blake (1968) added *anthonyi* to the synonomy of *pectoralis* and recognized *espinachi.*

Unfortunately, Monroe and others apparently did not realize the extent to which variation in size and plumage is due to age or wear. For example, the holotype and most of the type series of *espinachi* are immature birds, thus accounting in part for their smaller size and their paler color. Not realizing this

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led Griscom (1930) to believe that the Guatemala birds (his series consisted mostly of adults) were slightly larger in size than *espinachi.* They may be, but the difference between my series is small and statistically insignificant. Failure to consider size variation with age also accounts for Monroe's supposed cline in size. No geographically ordered variation in size can be found if specimens are properly segregated by age and sex (and degree of feather wear) and if only definitive-plumaged adults are measured (Table 1, Fig. 1 and 2). Taxonomically useful characters in this species are limited to the general intensity of color of head, rump and underparts, and to the extent of breast spotting.

In the accounts of subspecies specimens of adults that were measured are presented as totals by country (or state) for *I.p. guttulatus* and by locality for the other subspecies. Specimens examined in predefinitive or in worn (and unmeasurable) definitive plumage are not cited.

Museum acronyms and abbreviations used beyond are identified in the section of acknowledgements.

SUBSPECIES ACCOUNTS

Icterus pectoralis espinachi Ridgway. Proc. U.S. Nat. Mus. 5:392, 1882. Type locality: La Palma de Nicoya, Guanacaste, Costa Rica. Holotype: immature male, USNM 87361 (examined).

DIAGNOSIS: Head and rump orange-yellow, similar to nominate *pectoralis* but slightly brighter; much yellower in those areas than *I. p. guttulatus.* Slightly paler orange on belly than *guttulatus,* but this is seen only in series. Pectoral spots generally isolated from one another, *i.e.,* not coalesced (Fig. 3).

RANGE: Northwestern Costa Rica (Guanacaste and Puntarenas Departments) and probably adjacent Nicaragua in the arid zone of Rivas Department from whence no specimens have been seen.

DISCUSSION: It is interesting that the pale populations at the northern and southern ends of the species range are most similar. One of six male *espinachi* (UMMZ 160665, Fig. 3) is as deeply colored as *guttulatus,* and two (CM 26877 and AMNH 521932) have heavily marked breast bands similar to those of the Guerrero population named beyond. In size *espinachi* may be slightly smaller than the *"anthonyi"* compoment of *guttulatus* but is considerably smaller than the nearer Honduras subpopulation of *guttulatus.* In any case there is no clinal increase in size from south to north as proposed by Monroe (1968).

SPECIMENS EXAMINED: 16. *Costa Rica:* Guanacaste Department, Bebedero 4 males, 4 females; Bolson 3 males, 1 female; Philadelphia 1 male, 1 female; Santa Cruz Mujal 1 male. Puntarenas Department, Boca de Barranca Bonilla 1 male.

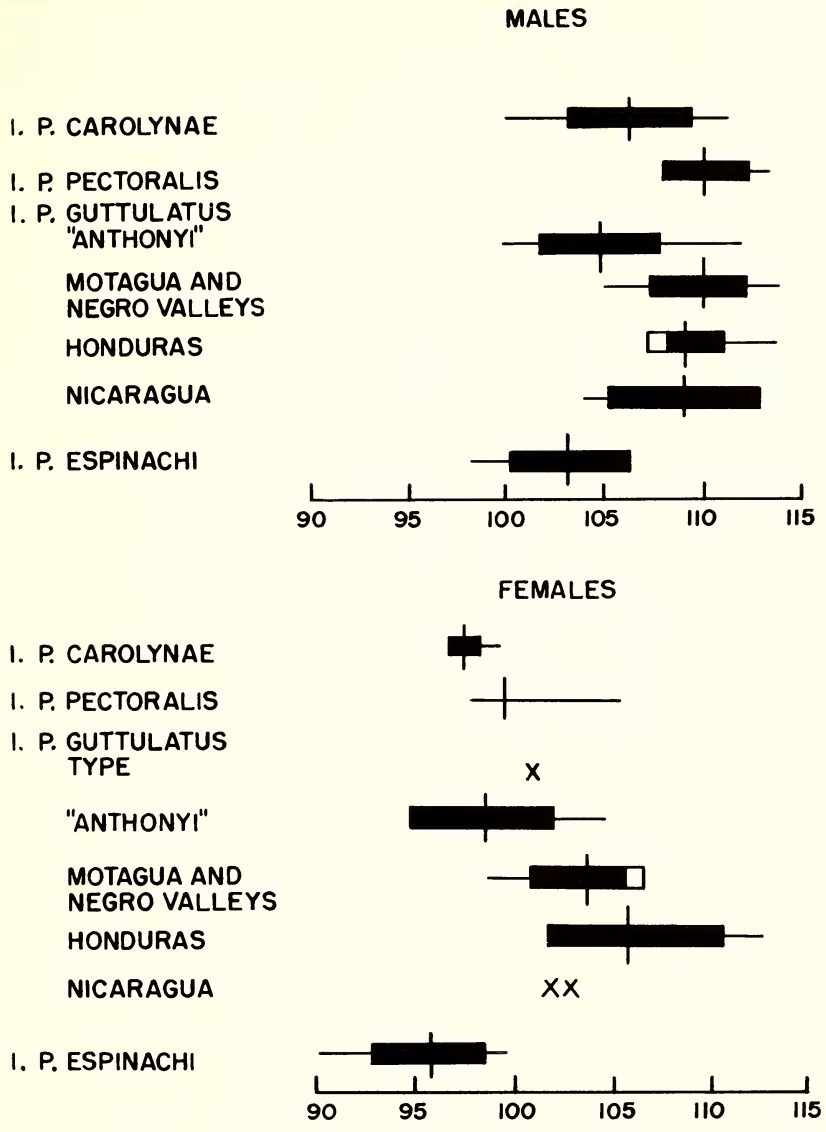

Fig. 1. Statistical analysis of wing chord measurements (rounded to nearest mm) for subspecies and populations of *Icterus pectoralis*. For each sample the range, mean (vertical line), and one standard deviation on either side of the mean (solid bar) are presented. See Table 1 for sample sizes.

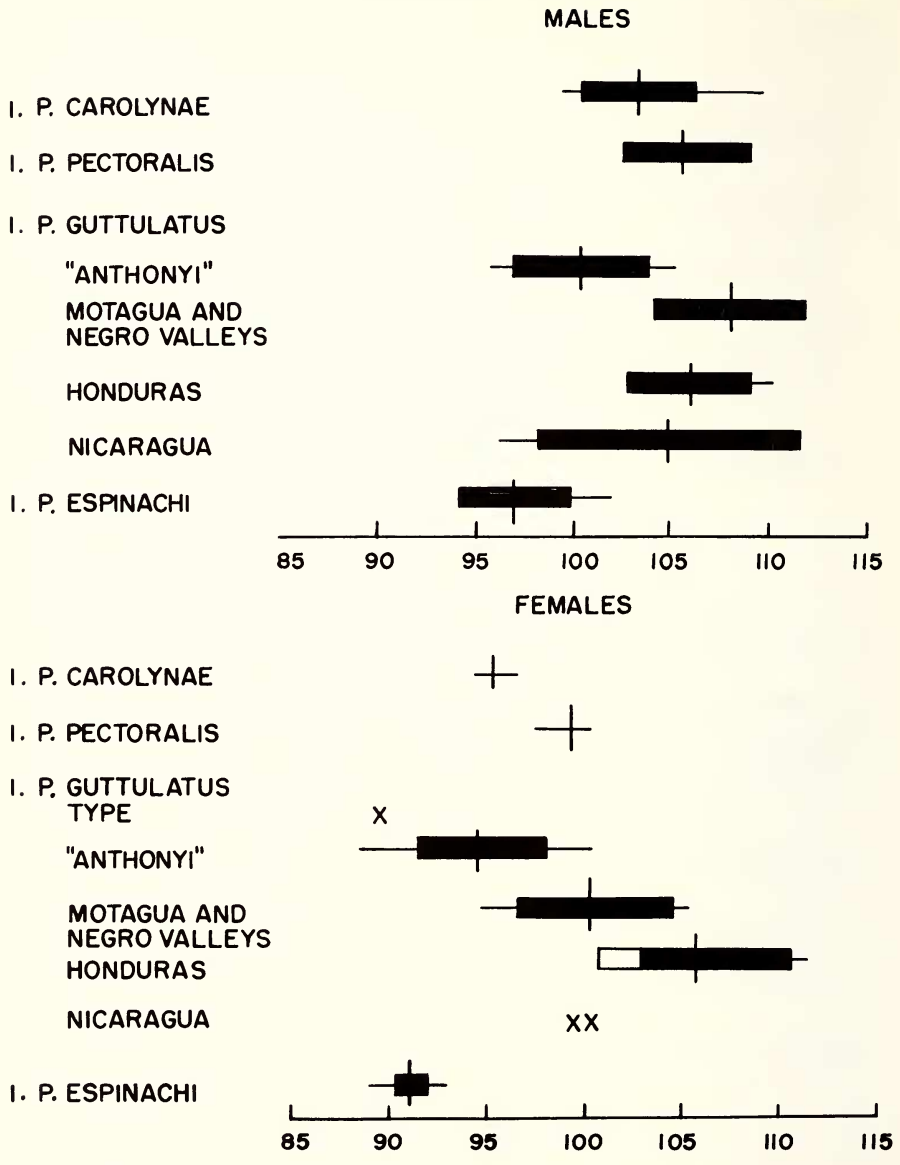

Fig. 2. Statistical analysis of tail measurements (rounded to nearest mm) for subspecies and populations of *Icterus pectoralis*. The format and symbols are as with Figure 1.

Table 1. Measurements (mm) of subspecies and populations of *Icterus pectoralis*, with mean and standard deviation.

	Males		Females	
	Wing	Tail	Wing	Tail
I.p. carolyneae	100-111 106.3 (3.0) n=17	100-110 103.6 (2.5) n=14	97-100 97.8 (1.30) n=6	95-97 95.6 (0.8) n=5
I.p. pectoralis	108-113 109.6 (1.8) n=7	103-109 105.5 (2.6) n=6	98-106 101.5 n=4	98-101 99.6 n=3
I.p. guttulatus type specimen			101	90
"anthonyi"	100-112 105.0 (2.9) n=20	96-106 101.3 (3.4) n=20	95-105 98.6 (3.6) n=20	89-101 95.2 (3.1) n=19
Motagua and Negro Valleys	105-114 109.6 (3.2) n=5	104-112 108.2 (3.8) n=5	99-106 103.6 (2.7) n=5	95-106 101.4 (4.4) n=5
Honduras	108-114 109.4 (1.9) n=11	103-110 106.2 (2.8) n=11	102-113 106.4 (4.8) n=17	103-112 106.0 (4.6) n=12
Nicaragua	103-113 108.8 (4.2) n=5	96-112 105.0 (6.8) n=5	102 & 103 n=2	100 & 100 n=2
I.p. espinachi	98-106 103.5 (2.9) n=10	94-102 97.2 (3.3) n=10	90-100 95.7 (3.3) n=6	89-93 91.2 (1.3) n=6

Icterus pectoralis guttulatus Lafresnaye. Mag. Zool. no. 2, vol. 6, pl. 52, 1844. Type locality: "Mexico" = error, I designate San Jose, Dept. Escuintla, Guatemala. Holotype: adult sex unknown, MCZ 76120 (examined).

Icterus pectoralis anthonyi Griscom. AMNH Novit. 438:18, 1930. Type locality: Finca El Cipres near Ocos, Dept. San Marcos, Guatemala. Holotype: adult male, AMNH 398802 (examined).

DIAGNOSIS: Resembling *I. p. espinachi* but more intensely colored on head and nape, rump and breast (orange rather than orange-yellow). Size variable (see Fig. 1, Table 1). Spotting as in *espinachi* (Fig. 3).

RANGE: Central (Matagalpa) and northwestern (Chinindega) Nicaragua along Pacific lowlands north to Pijijiapan, Chiapas and extending inland along the more mesic foothills to Rancho Sol y Luna, Oaxaca. Also in the arid interior of Honduras and in Guatemala in the arid portions of the drainages of the Rios Motagua and Negro.

DISCUSSION: Lafresnaye's type of *I. guttulatus* is an unsexed adult in moderately worn plumage now in the Museum of Comparative Zoology. It was compared with near topotypes of *espinachi* (from Bolson and Bebedero, Costa Rica) and a series of *"anthonyi"* including paratypes from Guatemala. The holotype is inseparable in color or size from Guatemalan specimens and differs from nominate *pectoralis,* as does the Guatemalan series, and as do specimens from Finca Esperanza, near Escuintla and Pijijiapan, Chiapas, in being more orange. Allan R. Phillips pointed out to me that the holotype of *guttulatus* undoubtedly came from Guatemala rather than Mexico. The Pacific lowlands of Chiapas, the only area in Mexico in which the specimen could have been taken, were essentially inaccessable during the period in which the holotype must have been collected (1830-1842). There are no ornithological collections from that region of Chiapas during that time period. Ixtapa (then spelled Ystapa) was the major Pacific port for Guatemala up to 1853, and the road from Ixtapa to Guatemala City passed close to the present day port of San Jose (see Dickerman, 1981). At least one major collection, that reported by Bonaparte (1837), was made on the Pacific lowlands and slope of Guatemala during the 1830's.

Within the range herein ascribed to *guttulatus,* specimens from Guatemala and southern Chiapas are the smallest, while birds from interior Honduras and the Rio Motagua Valley average larger. Nicaragua specimens are intermediate in size. Were a better series of measurable adults from Honduras and Nicaragua available, additional overlap with *"anthonyi"* would probably be shown. There is no variation in color among those populations. There is thus no justification for formal subspecific separation of the somewhat larger Honduras birds.

SPECIMENS EXAMINED: 104. *Nicaragua* 5 males, 2 females; *Honduras* 11 males, 17 females; *El Salvador* 1 male, 1 female; *Guatemala* 35 males, 19 females; *Chiapas* 5 males, 5 females; *Oaxaca* 1 male, 2 females.

Icterus pectoralis pectoralis Wagler. Isis, 1829, col. 755. Type locality: "Mexico" (= Totolapan, Oaxaca).

DIAGNOSIS: Similar to *I. p. guttulatus* but paler on crown, venter and rump (yellowish orange rather than orange). Spotting as in *guttulatus* and *espinachi* (Fig. 3).

RANGE: Restricted to the arid Pacific lowlands of the Isthmus of Tehuantepec, south to Tonalá, Chiapas.

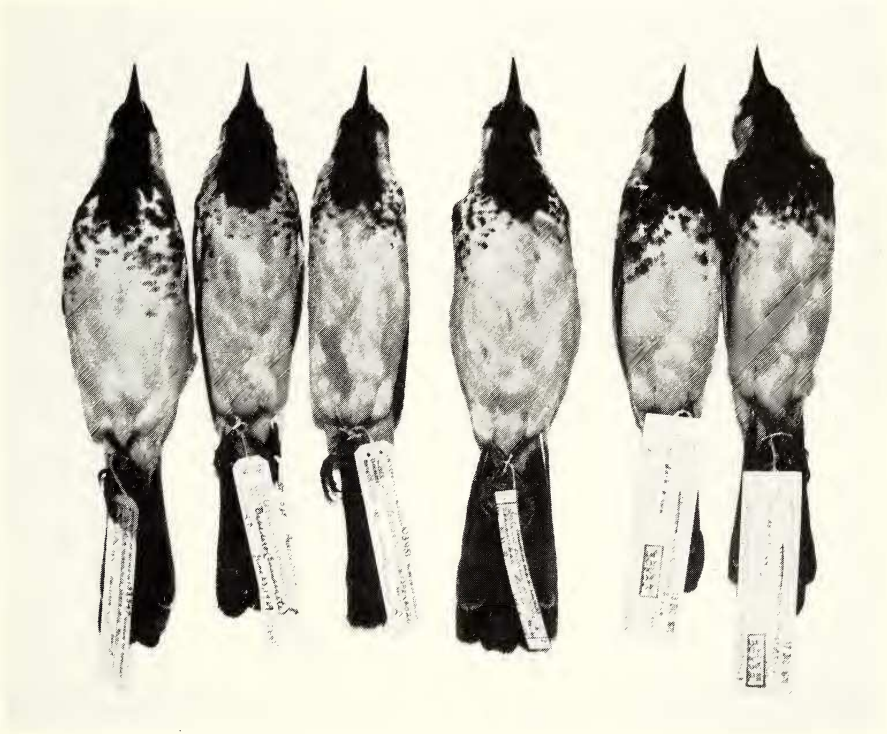

Fig. 3. Four subspecies of *Icterus pectoralis.* Left to right: *I.p. espinachi,* male, typical coloration UMMZ 133347, male extreme coloration UMMZ 150665; *I.p. guttulatus,* male UMMZ 103951; *I.p. pectoralis,* male UMMZ 139230; and *I.p. carolynae,* male DEL 30833, female DEl 30832.

DISCUSSION: In the original description, the only location given was "Mexico". Stresemann (1954) provided the provenience of many of Ferdinand Deppe's specimens on which names have been based. "Totolapa (Oaxaca), October, 1825" were the data Stresemann provided for the type of *I. pectoralis.* Binford (pers. comm.) was unable to ascertain the location of Totolapa; but, during late October and November 1825, Deppe collected at San Bartolo (50 mi W of Tehuantepec), at Tehuantepec, and at San Mateo on the coast south of Tehuantepec (Stresemann 1954, p. 87). The Tehuantepec region may be thus considered to be the type locality of *I. pectoralis.*

A specimen (WF 16971) from Rancho Sol y Luna, Oaxaca east of the Isthmus of Tehuantepec at the base of the foothills (elev. 800') is as brightly colored as Chiapas specimens of *guttulatus* while a specimen from Tonalá, Chiapas (AMNH 521929) is nominate *pectoralis* in color. Specimens from Oaxaca west of the Isthmus of Tehuantepec (and from extreme southern Guerrero) are variably intermediate between nominate *pectoralis* and the following subspecies. They are cited under the subspecies described below.

SPECIMENS EXAMINED: 11. *Oaxaca:* Tehuantepec 3 males, 1 female; Tapanatepec to 9.5 miles west Zanatepec 3 males, 2 females; San Gabriel Mixtepec Juquila 1 male. *Chiapas:* Tonalá 1 female.

Icterus pectoralis carolynae new subspecies. Holotype: DEL 30832, adult female, collected on the east shore of Laguna de Tres Palos, east of Acapulco, Guerrero, Mexico, on 17 December 1970 by Sóstenes Romero H; from the collection of Allan R. Phillips.

DIAGNOSIS: Coloration of head, rump and venter pale as in *pectoralis,* orange-yellow rather than orange as in comparable areas of *guttulatus;* slightly paler in those areas than *espinachi.* Spotting of breast more extensive, both in total area and in size of individual spots. These coalesce in some individuals to form a band connecting with the black of the mantle (Fig. 3).

RANGE: Known only from the Pacific slope of Guerrero and adjacent Oaxaca.

ETYMOLOGY: It is a pleasure to name this beautiful subspecies for my wife Carolyn Lyell (Campbell) Dickerman.

DISCUSSION: Five specimens in the Moore Laboratory collection from Cuajinicuilapa in extreme southern Guerrero are nearer the nominate subspecies, while four of seven specimens from the Pacific slope of Oaxaca in the LSU collection are inseparable from *carolynae.* Late nesting season specimens of *carolynae* (August) have spotting reduced through wear.

SPECIMENS EXAMINED: 21. *Guerrero:* Laguna Tres Palos 3 males, 1 female; Papayo 2 males, 1 female; Ejido Nuevo 2 males; Dos Arroyos 1 male,

1 female; Joluchuea (= SE of Petalan, SW Guerrero) 2 males, 1 female; Acupulco 1 male; 28 miles west of Pie de la Questa 1 male; Las Posas (7 miles north of Coyuca) 2 males, 4 females; Atoyac de Alvarez 1 female.

Intermediate populations *I. p. pectoralis* x *I. p. carolynae* 12. *Guerrero,* Cuajinicuilapa 1 female, 4 males. *Oaxaca,* 6 and 16 miles northwest of Puerto Escondido 2 males; Minitan (22 roadmiles south of Pinotepa) 1 female, 1 male; 11 miles north of Pochutla 1 female, 2 males. Measurements of specimens from Oaxaca in the LSU collection are included in the series of *carolynae* presented in Table 1 and Figures 1 and 2.

Acknowledgements

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